

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A wavelength converting method comprising passing light of a first wavelength through a non-linear optical crystal and outputting the light from an output surface of the non-linear crystal at a second wavelength, different from the first wavelength, the output surface being in contact with a gaseous ~~ambients~~ambient containing less nitrogen than air, the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas.

2. (Currently Amended) The wavelength converting method according to claim 1, wherein an incident surface of the non-linear optical crystal on which the light to be wavelength-converted is incident and the output surface of the non-linear optical crystal are in a gaseous ambient that contains less nitrogen than air, the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas.

3. (Currently Amended) The wavelength converting method according to claim 1, wherein respective ~~ambients~~ambients that are in contact with an incident surface of the non-linear optical crystal on which the light to be wavelength-converted is incident and the output surface are different.

4. (Currently Amended) The wavelength converting method according to claim 1, including circulating the gaseous ambient ~~that is lower in content of nitrogen than air~~in contact with the output surface of the non-linear optical crystal.

5. (Currently Amended) The wavelength converting method according to claim 4, including, after the gaseous ambient in contact with the output surface of the non-linear optical crystal is supplied to the output surface of the non-linear optical crystal, exhausting the gaseous ambient.

6. (Currently Amended) The wavelength converting method according to claim 1, wherein the gaseous ambient in contact with the output surface of the non-linear optical crystal contains no more than 10% by volume of nitrogen.

7. (Previously Presented) The wavelength converting method according to claim 1, wherein the non-linear optical crystal is a crystal including cesium.

8. (Currently Amended) The wavelength converting method according to claim 1, wherein the gaseous ambient in contact with the output surface of the non-linear crystal mainly contains ~~any one of a rare gas, oxygen, and carbon dioxide~~.

9. (Currently Amended) The wavelength converting method according to claim 3, wherein the gaseous ambient in contact with the output surface of the non-linear optical crystal is a mixture mainly containing argon.

10. (Currently Amended) A wavelength converting device that wavelength-converts light passed through a non-linear optical crystal comprising means for controlling a gaseous ambient in contact with an output surface of the non-linear optical crystal from which the light that has been wavelength-converted is ~~outputted~~ output so the gaseous ambient contains less nitrogen than air, the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas.

11. (Previously Presented) The wavelength converting device according to claim 10, wherein the wavelength-converted light output is at least 5 W in mean power.

12. (Currently Amended) The wavelength converting device according to claim 10, further comprising means for surrounding an incident surface of the non-linear optical crystal on which the light to be wavelength-converted is incident and the output surface of the non-linear optical crystal with a gaseous ambient that is lower in nitrogen than air, the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas.

13. (Previously Presented) The wavelength converting device according to claim 10, further comprising means for controlling respective gaseous ambients in contact with an incident surface of the non-linear optical crystal on which the light to be wavelength-converted is incident and with the output surface of the non-linear optical crystal so that the gaseous ambients are different.

14. (Currently Amended) The wavelength converting device according to claim 10, comprising means for circulating the gaseous ambient in contact with the output surface of the non-linear crystal.

15. (Currently Amended) The wavelength converting device according to claim 14, wherein the non-linear optical crystal is disposed within a vessel including a window or an opening that allows incident light or outgoing light to pass and means for supplying a ~~gaseous ambient~~ lower in content of nitrogen than air, the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas, to the vicinity of at least the output surface of the non-linear optical crystal within said vessel, and means for exhausting ~~gas~~ the gaseous ambient from said vessel.

16. (Currently Amended) The wavelength converting device according to claim 10, wherein the gaseous ambient in contact with the output surface of the non-linear crystal contains no more than 10% by volume of nitrogen.

17. (Previously Presented) The wavelength converting device according to claim 10, wherein the non-linear optical crystal is a crystal including cesium.

18. (Currently Amended) The wavelength converting device according to claim 10, wherein the gaseous ambient in contact with the output surface of the non-linear crystal is mainly ~~one of a rare gas, oxygen, and carbon dioxide gas.~~

19. (Currently Amended) The wavelength converting device according to claim 13, wherein the gaseous ambient in contact with the output surface of the non-linear optical crystal is a mixture mainly containing argon.

20. (Currently Amended) A laser machining device comprising:
a machining device;
a laser device, which is a light source for wavelength conversion, as a machining light source;

a wavelength-converting device that wavelength-converts the light from said laser device by passing the light through a non-linear optical crystal; and

means for controlling ~~an~~ a gaseous ambient in contact with a surface of ~~a~~ the non-linear optical crystal from which wavelength-converted light is outputted, so the gaseous ambient contains less nitrogen than air, ~~and a wavelength-converting device that wavelength-converts~~

~~a laser beam from said laser device and passing through the non-linear optical crystal~~
the gaseous ambient excluding an ambient consisting of oxygen, ambients consisting of one or more rare gases, and ambients consisting of oxygen and at least one rare gas.